



Complete Summary

TITLE

Appropriate treatment for children with upper respiratory infection (URI): percentage of children 3 months to 18 years of age who were given a diagnosis of URI and were not dispensed an antibiotic prescription.

SOURCE(S)

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 1, Narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 90 p.

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 417 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of children 3 months to 18 years of age who were given a diagnosis of upper respiratory infection (URI) and were not* dispensed an antibiotic prescription on or three days after the Index Episode Start Date.

*This measure is reported as an inverted rate $[1 - (\text{numerator}/\text{eligible population})]$. A higher rate indicates appropriate treatment of children with URI (i.e., proportion for whom antibiotics were *not* prescribed).

RATIONALE

The common cold (or upper respiratory infection [URI]) is a frequent reason for children visiting the doctor's office. Though existing clinical guidelines do not support the use of antibiotics for the common cold, physicians often prescribe them for this ailment. Pediatric clinical practice guidelines do not recommend antibiotics for a majority of upper respiratory tract infections because of the viral etiology of these infections, including the common cold. A performance measure of antibiotic use for URI sheds light on the prevalence of inappropriate antibiotic prescribing in clinical practice and raises awareness of the importance of reducing inappropriate antibiotic use to combat antibiotic resistance in the community.

PRIMARY CLINICAL COMPONENT

Upper respiratory infection (URI); appropriate treatment; antibiotics

DENOMINATOR DESCRIPTION

Children 3 months as of July 1 of the year prior to the measurement year to 18 years as of June 30 of the measurement year, with a Negative Medication History and a Negative Competing Diagnosis, who had an outpatient or emergency department (ED) visit with only a diagnosis of upper respiratory infection (URI) during the Intake Period (see the "Description of Case Finding" and the "Denominator Inclusions/Exclusions" fields in the Complete Summary)

NUMERATOR DESCRIPTION

Children from the denominator who were dispensed prescription for antibiotic medication (refer to Table CWP-C in the original measure documentation for a list of antibiotic medications) on or three days after the Index Episode Start Date (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance
Variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

National Committee for Quality Assurance (NCQA). The state of health care quality 2009. Washington (DC): National Committee for Quality Assurance (NCQA); 2009. 127 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Decision-making by businesses about health-plan purchasing
Decision-making by consumers about health plan/provider choice
External oversight/Medicaid
External oversight/State government program
Internal quality improvement
National reporting

Application of Measure in its Current Use

CARE SETTING

Managed Care Plans

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Age 3 months through 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

- Each year, Americans suffer an estimated one billion upper respiratory infections (URI), commonly known as the "cold."
- Studies have found almost one in four office visits for the common cold results in an antibiotic prescription for children under 15 years old.

EVIDENCE FOR INCIDENCE/PREVALENCE

McCaig LF, Besser RE, Hughes JM. Trends in antimicrobial prescribing rates for children and adolescents. JAMA 2002 Jun 19;287(23):3096-102. [PubMed](#)

The common cold. [internet]. Bethesda (MD): National Institute of Allergy and Infectious Diseases, National Institutes of Health; 2007 Nov 23[accessed 2007 Nov 28].

ASSOCIATION WITH VULNERABLE POPULATIONS

Children have an estimated three to eight colds a year. Colds are most prevalent among children due to their relative lack of exposure to prior colds and to their high contact with other children.

EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

National Committee for Quality Assurance (NCQA). The state of health care quality 2009. Washington (DC): National Committee for Quality Assurance (NCQA); 2009. 127 p.

BURDEN OF ILLNESS

- Inappropriate treatment of the common cold with antibiotics increases drug resistance. This decreases the effectiveness of current pharmaceuticals against bacteria and increases an individual's risk of becoming infected with drug-resistant bacteria.
- Appropriate treatment for upper respiratory infection (URI) will decrease the number of individuals at risk for complications arising from the side effects of antibiotics, ranging from fevers and rashes to drug allergies, prolonged hospital stays and even death.

EVIDENCE FOR BURDEN OF ILLNESS

Gonzales R, Malone DC, Maselli JH, Sande MA. Excessive antibiotic use for acute respiratory infections in the United States. Clin Infect Dis 2001 Sep 15;33(6):757-62. [PubMed](#)

UTILIZATION

Unspecified

COSTS

- An estimated \$227 million is spent each year on inappropriate treatment for upper respiratory infection (URI) in 7.4 million patients.

- The estimated economic impact of noninfluenza-related URI is \$40 billion annually, making its total cost more expensive than many significant chronic conditions such as hypertension, chronic obstructive pulmonary disease (COPD), congestive heart failure and asthma.
- An estimated 189 million school days are missed annually as a result of noninfluenza-related viral URI episodes. Based on this estimate, an additional 126 million workdays are missed by parents caring for the sick child.

EVIDENCE FOR COSTS

Adams PF, Hendershot GE, Marano MA. Current estimates from the national health interview survey, 1996. National Center for Health Statistics; 1999 Oct 1. 140 p. (Vital and Health Statistics; no. 200).

Fendrick AM, Monto AS, Nightengale B, Sarnes M. The economic burden of non-influenza-related viral respiratory tract infection in the United States. Arch Intern Med 2003 Feb 24;163(4):487-94. [PubMed](#)

Gonzales R, Malone DC, Maselli JH, Sande MA. Excessive antibiotic use for acute respiratory infections in the United States. Clin Infect Dis 2001 Sep 15;33(6):757-62. [PubMed](#)

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Children 3 months as of July 1 of the year prior to the measurement year to 18 years as of June 30 of the measurement year continuously enrolled 30 days prior to the Episode Date* through 3 days after the Episode Date (inclusive) with no gaps in enrollment during the continuous enrollment period

**Episode Date:* The date of service for any outpatient or emergency department (ED) visit (refer to Table URI-B in the original measure documentation for codes to identify visit type) during the Intake Period with only a diagnosis of upper respiratory infection (URI) (refer to Table URI-A in the original measure documentation for codes to identify URI). Exclude claims/encounters with more than one diagnosis.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusion

Children 3 months as of July 1 of the year prior to the measurement year to 18 years as of June 30 of the measurement year, with a Negative Medication History* and Negative Competing Diagnosis*, who had an outpatient or emergency department (ED) visit with only a diagnosis of upper respiratory infection (URI) during the Intake Period*

*Note:

Negative Medication History: To qualify for Negative Medication History, the following criteria must be met.

- A period of 30 days prior to the Episode Date, during which time the member had no pharmacy claims for either new or refill prescriptions for a listed antibiotic drug
- No prescriptions filled more than 30 days prior to the Episode Date that are active on the Episode Date (refer to Table CWP-C in the original measure documentation for a list of antibiotic medications)

A prescription is considered **active** if the "days supply" indicated on the date when the member filled the prescription is the number of days or more between that date and the relevant service date. The 30-day look back period for pharmacy data includes the 30 days prior to the Intake Period.

Negative Competing Diagnosis: The Episode Date and three days following the Episode Date, during which the member had no claims/encounters with any competing diagnosis (refer to Table URI-C in the original measure documentation for codes to identify competing diagnoses).

Intake Period: A 12-month window that begins on July 1 of the year prior to the measurement year and ends on June 30 of the measurement year. The Intake Period captures eligible episodes of treatment.

Refer to the original measure documentation for steps to identify the eligible population.

Exclusions

- Do not include ED visits that result in an inpatient admission.
- Exclude claims/encounters with more than 1 diagnosis.
- *Test for Negative Medication History.* Exclude Episode Dates where a new or refill prescription for an antibiotic medication was filled 30 days prior to the Episode Date or was active on the Episode Date (refer to Table CWP-C in the original measure documentation for a list of antibiotic medications).
- *Test for Negative Competing Diagnosis.* Exclude Episode Dates where the member had a claim/encounter with a competing diagnosis (refer to Table URI-C in the original measure documentation for codes to identify competing diagnosis) on or 3 days after the Episode Date.

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition
Encounter
Patient Characteristic

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusion

Children from the denominator who were dispensed prescription for antibiotic medication (refer to Table CWP-C in the original measure documentation for a list of antibiotic medications) on or three days after the Index Episode Start Date*

**Index Episode Start Date:* The earliest Episode Date during the Intake Period that meets all of the following criteria:

- A 30-day Negative Medication History prior to the Episode Date
- A Negative Competing Diagnosis during the 3 days after the Episode Date
- The member was continuously enrolled 30 days prior to the Episode Date through 3 days after the Episode Date

Exclusions

Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Pharmacy data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure**SCORING**

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors, geographic factors, etc.)

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

This measure requires that separate rates be reported for Medicaid and commercial product lines.

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties**EXTENT OF MEASURE TESTING**

Unspecified

Identifying Information**ORIGINAL TITLE**

Appropriate treatment for children with upper respiratory infection (URI).

MEASURE COLLECTION

[HEDIS® 2010: Health Plan Employer Data and Information Set](#)

MEASURE SET NAME

[Effectiveness of Care](#)

MEASURE SUBSET NAME

[Respiratory Conditions](#)

DEVELOPER

National Committee for Quality Assurance

FUNDING SOURCE(S)

Unspecified

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

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ENDORSER

National Quality Forum

INCLUDED IN

Ambulatory Care Quality Alliance
Physician Quality Reporting Initiative

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2004 Jan

REVISION DATE

2009 Jul

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: National Committee for Quality Assurance (NCQA). HEDIS® 2009: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2008 Jul. various p.

SOURCE(S)

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 1, Narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 90 p.

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 417 p.

MEASURE AVAILABILITY

The individual measure, "Appropriate Treatment for Children with Upper Respiratory Infection (URI)," is published in "HEDIS® 2010. Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications."

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Telephone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

COMPANION DOCUMENTS

The following is available:

- National Committee for Quality Assurance (NCQA). The state of health care quality 2009. Washington (DC): National Committee for Quality Assurance (NCQA); 2009. 127 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Telephone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

NQMC STATUS

This NQMC summary was completed by ECRI on April 11, 2005. The information was verified by the measure developer on December 15, 2005. This NQMC summary was updated by ECRI Institute on November 15, 2007. The information was not verified by the measure developer. This NQMC summary was updated by ECRI Institute on March 10, 2009. The information was verified by the measure developer on May 29, 2009. This NQMC summary was updated again by ECRI Institute on January 15, 2010.

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